

Reviewer Biographies

Jesse H. Ausubel



Mr. Ausubel is Director of the Program for the Human Environment and Senior Research Associate at The Rockefeller University in New York City. The program aims to elaborate the vision of a large, prosperous society that emits little or nothing harmful and spares large amounts of land and sea for nature. The work spans forests and farms, marine life, human population, energy and materials, and climate as well as life, earth, and engineering sciences. Underlying the work are studies of the mathematics of growth and diffusion.

Mr. Ausubel has been a resident fellow at the National Academy of Sciences' Climate Research Board, study director at the National Research Council's Board on Atmospheric Sciences and Climate and director of programs for the National Academy of Engineering. He joined The Rockefeller University as a fellow in science and public policy in 1989 and became senior research associate and director of the Program for the Human Environment in 1993. He has worked for the Alfred P. Sloan Foundation since 1994. He is an adjunct faculty member of the Woods Hole Oceanographic Institute and a member of the Council on Foreign Relations, and serves on several editorial boards.

Under the auspices of the Alfred P. Sloan Foundation, for which he serves as program director, Mr. Ausubel has participated in the development of an international program to assess and explain the diversity, distribution and abundance of life in the oceans: the Census of Marine Life. Involvement in the marine census has led to environmental genomics, and researchers in the program are now exploring and advancing the use of very short DNA sequences for species identification, the so-called "Barcode of Life." In addition, Mr. Ausubel and his collaborators participate in the creation of the Encyclopedia of Life, a Web site that will catalog all of Earth's 1.8 million known and named species. The project will harness the resources of contributors worldwide to become the world's most comprehensive resource aimed at helping the scientific community, and others, gain a better understanding of the wide variety of life forms with which we share the planet.

Mr. Ausubel received his bachelor's degree from Harvard College and two master's degrees from Columbia University.

Susan K. Avery, PhD

Dr. Avery took office as president and director of Woods Hole Oceanographic Institution (WHOI) on February 4, 2008. Avery is the ninth director in the institution's 78-year history, and the first woman to hold the position.



As an oceanographic leader with a background in atmospheric research, Avery has used her unique position to underscore the importance of ocean-atmosphere interactions in understanding whole Earth systems. Since taking the helm at WHOI, Avery has delivered Congressional testimony and presentations at scientific conferences such as the American Meteorological Society, the IEEE International Geoscience & Remote Sensing Symposium, the American Geological Union, and the Partnership for Observation of the Global Ocean (POGO), often directing her comments at the intersection of atmospheric, earth, and ocean science.

Avery has extensive experience as a leader within scientific institutions. She came to WHOI from the University of Colorado at Boulder (UCB), where she was a member of the faculty since 1982, and where she served in interim positions as vice chancellor for research and dean of the graduate school, as well as provost and executive vice chancellor for academic affairs. From 1994-2004, she served as director of the Cooperative Institute for Research in Environmental Sciences (CIRES), the first woman and first engineer to hold that position. There, she facilitated new interdisciplinary research efforts spanning the geosciences while bringing them together with social and biological sciences and helped establish a thriving K-12 outreach program and a Center for Science and Technology Policy Research.

Avery's research includes studies of atmospheric circulation and precipitation, climate variability and water resources, and the development of new radar techniques and instruments for remote sensing. The author or co-author of more than 80 peer-reviewed articles, Avery helped form an integrated science and assessment program that examines the impacts of climate variability on water in the American West. She also worked with the National Oceanic and Atmospheric Administration and the Climate Change Science Program to help formulate a national strategic science plan for climate research.

Avery is a fellow of both the Institute of Electrical and Electronics Engineers and of the American Meteorological Society, for which she also served as president. She is a member of the advisory board for the Jet Propulsion Laboratory and a past chair of the board of trustees of the University Corporation for Atmospheric Research. She has also served on numerous advisory panels, committees, and councils for the National Science Foundation, the National Research Council, the National Oceanic and Atmospheric Administration, and the National Center for Atmospheric Research.

Dr. Avery earned a bachelor's degree in physics from Michigan State University in 1972, a master's in physics from the University of Illinois in 1974, and a doctorate in atmospheric science from the University of Illinois in 1978.

**Rodey Batiza, PhD**

Dr. Batiza is presently the Section Head of the Marine Geosciences Section within the Ocean Sciences Division in GEO at the National Science Foundation. He oversees the Marine Geology and Geophysics Program as well as the Ocean Drilling Program. He is the U.S. Principal Official for drilling within the Integrated Ocean Drilling Program (IODP). Prior to coming to the National Science Foundation in 2000, Dr. Batiza was a Professor and academic researcher at Washington University (St. Louis) 1977-1986; Northwestern University 1987-1989; and University of Hawaii at Manoa 1989-2000. He received a PhD in Earth Sciences from the University of California San Diego. His research interests include origin of ocean crust, origin of oceanic igneous rocks, and the geochemistry of oceanic basalts. He has been Chief Scientist on over a dozen oceanographic cruises and is author or co-author of over 115 research papers.

James P. Delgado, PhD

Dr. Delgado is the Director of Maritime Heritage in the NOAA's Office of National Marine Sanctuaries.

He was the Park Historian for the National Park Service's (NPS) Golden Gate National Recreation Area from 1979-1986. During a one-year sabbatical from the NPS in 1984-1985 to attend East Carolina University, Dr. Delgado gained a master's degree in Maritime History and Underwater Research. He was subsequently assigned by the N.P.S.'

Chief Historian, Edwin C. Bearss to work as project historian on the USS *Monitor* project with the National Oceanic and Atmospheric Administration (NOAA). He then headed the N.P.S.' maritime preservation program, the National Maritime Initiative (NMI), as its founding chief, starting in 1987. The NMI was also the maritime preservation program for the federal government, and in his role, Delgado led the effort to study 142 ships for designation as national landmarks, inventoried the nation's maritime resources, and supported the development of standards and guidelines for preservation and documentation.

Dr. Delgado spent his last field season with N.P.S. in 1990, working at Bikini, and then leading a team to Mexico to jointly study the remains of the 1846 USS *Somers*, the setting for the navy's only mutiny and the inspiration for Herman Melville's *Billy Budd*. In 1991, he moved to Vancouver, British Columbia where he took on the role of Executive Director of the Vancouver Maritime Museum for the next fifteen years. During his museum tenure, he returned to university to undertake his PhD in archaeology, receiving the distinction in 2006 from Simon Fraser University. Following his graduation, he was named an Adjunct Member of the Faculty of the Department of Archaeology. From 2001 to 2006, he hosted, and was the team archaeologist on, the popular Canadian-made National Geographic documentary series *The Sea Hunters*, which drew an audience of over 200 million people in over 172 countries. He worked with famous novelist, raconteur and shipwreck hunter Clive Cussler, the series presenter, master divers Mike and Warren Fletcher, and John Davis from Eco-Nova Productions.

In 2006, he moved to Texas and joined the Institute of Nautical Archaeology (INA) as Executive Director. In April 2008, he was elected President and CEO of this worldwide nautical archaeology organization. In October 2010, he left INA to become the Director of Maritime Heritage in the Office of National Marine Sanctuaries for the National Oceanic & Atmospheric Administration in Washington, D.C. He coordinates and at times supervises all maritime heritage activities in the 14 units in the NMS system. During his first two years with NOAA, he was involved in the Titanic mapping expedition as chief scientist, continued his years of study on the Civil War-era, pearl-diving submersible *Sub Marine Explorer*, participated in field work while reorganizing and focusing the maritime heritage program, and mentored five high school kids from Saginaw, Michigan for Project Shiphunt.

Dr. Delgado has a long list of professional and public service designations, including a presidency with the Council of American Maritime Museums, and he is also a member of several organizations such as the Archaeological Institute of America and The Explorers Club.

Dr. Delgado graduated with a B.A. in American history from San Francisco State University as a cooperative education student working with the National Park Service. Delgado gained a master's degree in Maritime History and Underwater Research from East Carolina University and a PhD in archaeology, from Simon Fraser University.





Vice Admiral Paul G. Gaffney II, USN (Ret.)

Mr. Gaffney is the seventh president of Monmouth University in West Long Branch, New Jersey.

He was president of the National Defense University from 2000 to 2003. Prior to assuming those duties, Admiral Gaffney was the Chief of Naval Research with responsibility for science and technology investment. In July 2001 he was appointed by President George W. Bush to the United States Commission on Ocean Policy, and served through the full term of the Commission until 2004. On August 12, 2009, Gaffney was named the new chair of the Ocean Research & Resources Advisory Panel (ORRAP), a panel created by statute to advise federal agencies regarding ocean science and management matters.

Mr. Gaffney's naval career spanned over three decades including duty at sea, overseas, and ashore in executive and command positions. He served in Japan, Vietnam, Spain, and Indonesia. While a military officer, his career focused on oceanography, research administration, and education. He has served on several boards of higher education and is a member of the Ocean Studies Board of the United States National Research Council. He is a Public Trustee for the New Jersey Consortium and a member of the Governor's Commission to Protect and Enhance New Jersey's Military Bases. He currently serves on the Meridian Health Board of Trustees.

Mr. Gaffney graduated from the United States Naval Academy in 1968. Upon graduation, he was selected for immediate graduate education and received a master's degree in Ocean Engineering from The Catholic University of America in Washington, D.C. He completed a year as a student and advanced research fellow at the Naval War College, graduating with highest distinction. He completed an M.B.A. at Jacksonville University. The University of South Carolina, Jacksonville University, and The Catholic University of America have awarded him honorary doctorates.

Terry Garcia

Mr. Garcia is executive vice president for Mission Programs for the National Geographic Society. He is responsible for the Society's core mission programs, including programs that support and manage more than 400 scientific field research, conservation and exploration projects annually. In addition, he oversees the Society's Explorers-in-Residence and Emerging Explorers programs, geography and science education programs, geography competitions, development office, exhibitions, live events and the arts media program, which includes the All Roads film and photography program.



In June 2010 Garcia was appointed by President Obama to serve on the National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling. The Commission investigated the root causes of the BP oil spill in the Gulf of Mexico and made recommendations on how to prevent—and mitigate the impact of—any future spills that result from offshore drilling.

Prior to joining the Society in 1999 Garcia was assistant secretary of commerce for oceans and atmosphere, U.S. Department of Commerce, and deputy administrator of the National Oceanic and Atmospheric Administration (NOAA). In this role he directed and coordinated U.S. coastal, ocean and atmospheric programs, including recovery of the endangered species, habitat conservation planning, Clean Water Act implementation, the development of the national marine sanctuary system and commercial satellite licensing. From 1994 to 1996 he was NOAA's general counsel. In that capacity he led the implementation of the Exxon Valdez Oil Spill Restoration Plan for Prince William Sound and the Gulf of Alaska.

Before entering government service, Garcia was a partner in the law firms of Manatt, Phelps & Phillips and Hughes Hubbard & Reed.

He is a member of the board of directors of the Institute for Exploration/Mystic Aquarium and the Amazonian Center for Environmental Education and Research (ACEER). He also is a member of the U.S. National Committee for the Census of Marine Life; the advisory board of the Harte Research Institute of Gulf of Mexico Studies, Texas A&M University; and the advisory board for the Scottish Government's Saltire Challenge Prize for marine renewable energy; and is a trustee emeritus of the National Marine Sanctuary Foundation. Garcia also has served on panels convened by the National Academy of Sciences and the National Academy of Public Administration.

He received his bachelor's degree in international relations from American University and his law degree from The George Washington University.



Cameron R. Hume

Mr. Hume was the United States Ambassador to Indonesia. He presented his credentials on August 1, 2007 and served through July 2010.

Hume is a member of the United States Foreign Service, rank of Career Minister. His earlier assignments included Italy, Tunisia, Syria, Lebanon, the United Nations, and the Holy See. More recently he has served as Ambassador to Algeria and to South Africa, and as Chargé d'Affaires to Sudan. While Ambassador to Indonesia, he focused on oceans, climate change, and education as elements of "soft power" diplomacy.

He has published three books and numerous articles on foreign policy. He has also been a fellow or guest scholar at the Council on Foreign Relations, Harvard University's Center for International Affairs, and the United States Institute of Peace. He is a lawyer and admitted to practice in New York and the District of Columbia.

Since leaving his post as Ambassador in 2010, Hume has served as a consultant to various interests in Indonesia, including Sinar Mas Group. His role with Sinar Mas sparked criticism from environmentalists, who blame Sinar Mas Group companies for deforestation in Indonesia. He brokered a settlement between Greenpeace and Sinar Mas' Golden Agri-Resources subsidiary in February 2011 that committed the company to less disruptive forestry practices.



Jeff Karson, PhD

Dr. Karson is the Department Chair for the Department of Earth Sciences and Jessie Page Heroy Professor at the Syracuse University. His expertise lies in structural geology and tectonics of oceanic spreading centers, field geology, relationships between magmatic construction and mechanical extension.

His research interests lie in structural and tectonic analysis of extensional and transform fault environments from ophiolites, contemporary oceanic crust, Iceland, continental rifts, and continental margins; fault geometry and kinematics; deformation and metamorphism in high-strain zones.

Dr. Karson has taught in the Department of Geological Sciences, State University of New York at Albany (SUNYA), and was a Postdoctoral Fellow at the University of Toronto and at the Woods Hole Oceanographic Institution (WHOI). After his postdoc experience, he was an assistant scientist in the Department of Geology and Geophysics in WHOI and subsequently became an associate scientist in the Department of Geology and Geophysics in WHOI.

In 1986 he became an Associate Professor at Duke University's Department of Geology and received tenure in 1992. He was an Adjunct Research scientist in Lamont-Doherty Earth Observatory, and a research fellow at the Danish Lithosphere Center. He returned to Duke University to become the Chairman for the Division of Earth & Ocean Sciences, Nicholas School of the Environment and Earth Sciences and in 2006 relocated to Syracuse University as a Professor in the Department of Earth Sciences, and in 2007 received Jessie Page Heroy Professor and Chair, Department of Earth Sciences.

Dr. Karson obtained his Bachelors (Geology) from Case Institute of Technology (CWRU), his Masters (Geology) and Doctorate (Geology) from State University of New York at Albany.

**James Kendall, PhD**

Dr. Kendall is the Alaska Regional Director for the Bureau of Ocean Energy Management. Dr. Kendall has over 27 years of experience with the Department of the Interior. He most recently served as the BOEMRE Alaska Regional Director. Dr. Kendall earned a Bachelor's Degree in biology from Old Dominion University, a PhD in oceanography from Texas A&M University, and a Post-doctoral Fellowship in Marine Biology from the Hebrew University of Jerusalem, Israel. He is also a graduate of the Federal Executive Institute, Charlottesville, Virginia, and the Senior Executive Fellows Program of the John F. Kennedy School of Government at Harvard University.



Eric Lindstrom, PhD

Dr. Lindstrom is a Program Scientist in the Science Mission Directorate at the National Aeronautics and Space Administration (NASA) Headquarters in Washington D.C. His scientific interests include the circulation of the ocean and air-sea exchange processes.

Dr. Lindstrom spent the early part of his career leading research expeditions in the waters around Australia as a member of Australia's Commonwealth Scientific and Industrial Research Organization (CSIRO). A native of California, Dr. Lindstrom returned permanently to the USA in 1991 to work on planning for several large experiments of the World Climate Research Program (the TOGA Coupled Ocean-Atmosphere Response Experiment and the World Ocean Circulation Experiment). Over the years he has been a passionate advocate for the development of a global ocean observing system. Before coming to NASA he served as Director of the Global Ocean Observing System Project Office in NOAA.

NASA Headquarters recruited Dr. Lindstrom in 1997 to lead its Physical Oceanography Program. In 2001 Dr. Lindstrom was awarded NASA's Exceptional Service Medal for his success in developing a unified oceanography program at NASA that is well integrated with those of other Federal agencies. Under Dr. Lindstrom's leadership the NASA Oceanography program has become a substantial contributor to the National Oceanographic Partnership Program and a more active participant with other agencies in developing the integrated global ocean observing systems of the future. He is co-chair of the Interagency Working Group on Ocean Partnerships and Program Scientist for the Quikscat, Jason, Jason-2, and Aquarius satellite missions. He was recently selected to serve as the next chairman of the international Ocean Observations Panel for Climate (OOPC).

He has degrees in Earth and Planetary Sciences from Massachusetts Institute of Technology (1977) and Physical Oceanography from University of Washington (1983).

Marcia McNutt, PhD

Dr. McNutt is director of the United States Geological Survey and science adviser to the United States Secretary of the Interior.



Dr. McNutt was president and chief executive officer of the Monterey Bay Aquarium Research Institute, an oceanographic research center in the United States, professor of marine geophysics at the Stanford University School of Earth Sciences and professor of marine geophysics at University of California, Santa Cruz.

She is a fellow for the American Geophysical Union (AGU), the Geological Society of America, the American Association for the Advancement of Science and the International Association of Geodesy. She is a member of the National Academy of Sciences, the American Philosophical Society and the American Academy of Arts and Sciences. She chaired the President's Panel on Ocean Exploration under President Bill Clinton. She serves on evaluation and advisory boards for institutions including the Monterey Bay Aquarium, Stanford University, Harvard University and Science magazine. In 1988, Dr. McNutt won the Macelwane Medal from the AGU, presented for outstanding research by a young scientist, and in 2007 she won the AGU's Maurice Ewing Medal for her contributions to deep-sea exploration and her leadership role in the ocean sciences.

She is a past president of the AGU from 2000 to 2002. In 2002, Discover magazine named Dr. McNutt one of the top fifty women in science. In 2003, she was named Scientist of the Year by the Achievement Rewards for College Scientists (ARCS) Foundation. She holds honorary doctorates from the University of Minnesota and Colorado College and was recognized as Outstanding Alumni in 2004 by the University of California, San Diego. Dr. McNutt chaired the board of governors of the Joint Oceanographic Institutions, which merged to become Consortium for Ocean Leadership for which she was trustee.

Dr. McNutt received a bachelor's degree in physics summa cum laude, Phi Beta Kappa, from Colorado College in 1973. As a National Science Foundation Graduate Fellow, she then studied geophysics at the Scripps Institution of Oceanography where she earned a PhD in earth sciences in 1978.



Jean May-Brett

Ms. May-Brett is the Louisiana State Department of Education Coordinator, and the Math Science Partnership Program Coordinator for the Louisiana Department of Education. Ms. May-Brett served as the Assistant Director of Educational Television Technology at Louisiana Public Broadcasting, Baton Rouge, from 1998-2003 and was the Project Director for the award winning SERC Enviro-Tacklebox and Literacy and Learning projects funded by the U.S. Department of Education.

During her 25-years of classroom teaching Ms. May-Brett taught Earth Science, Environmental Science, and Mathematics to students in New York and Louisiana at the middle and high school levels. She is a Past President of the Louisiana Science Teachers Association (LSTA) and serves as the State Coordinator for the Exxon/NSTA Building a Presence for Science Program. Ms. May-Brett is a past president of the Southern Association of Marine Educators (SAME) and the National Marine Educators Association (NMEA). A former President of Louisiana Environmental Educators Association (LEEA), she is currently serving her second term on the Governor's Louisiana Environmental Education Commission. She is currently serving on a number of agency, foundation, and organization education committees.

A Project Maury Peer Trainer, Ms. May-Brett became an Ocean Ambassador and regularly presents workshops on the Maury Modules providing NASA's materials. She completed the Train the Trainer and Initial Preparation of Environmental Educators courses provided by the EPA. She is a facilitator for Project Learning Tree, Project Wild and Aquatic Wild, Project WET and Healthy Water, Healthy People.

Ms. May-Brett is the Educational Consultant to the WETMAAP Project. She evaluates content, identifies appropriate geography, mathematics, and science national standards for the WETMAAP materials and workshop activities.



Steve Ramberg, PhD

Dr. Ramberg is a Distinguished Research Fellow at the Center for Technology and National Security Policy at the National Defense University (NDU) on assignment from the Applied Research Laboratory of Penn State University. At NDU he occupies the Chief of Naval Research Chair where he provides analysis and advice on S&T topics and policies, primarily in areas of naval relevance. He also regularly participates in studies, panels and lectures for NDU, for the National Academy, for the National Ocean Council via Ocean Research and Resources Advisory Panel (ORRAP) and for others.

During his career, Dr. Ramberg served as a Fellow and as Vice President for Arete Associates during 2007 to 2010; as the Director of the NATO Undersea Research Centre (NURC) in LaSpezia, Italy from 2003 to 2007; and as Director and Chief Scientist for Office of Naval Research (ONR) during 2001-2003 after joining ONR in 1988. His career at ONR also involved oversight of ocean, atmosphere and space programs in basic research through applied programs (6.1-6.3) including the Navy-owned research vessels in the academic fleet as well as inaugurating the National Ocean Partnership Program (NOPP) across 12 federal agencies. At the NURC, he focused on maritime, mostly undersea, research programs while advising North Atlantic Treaty Organization (NATO) in a number of informal and formal settings. This included research and technology strategies, coordination of programs among the 26 NATO Nations as well as transformation of NATO capabilities. In this capacity he was frequently called upon to give keynote addresses at international gatherings on topics ranging from status and trends in undersea research to issues of marine mammal risk reduction together with opportunities for port and harbor security research and maritime archaeology. Earlier, he worked at the Naval Research Laboratory where he published over 60 unclassified papers in the archival literature on fluid dynamics of bluff bodies, nonlinear ocean waves, stratified wakes, turbulence near a free surface and related remote sensing topics.